

N/2/2021-DADF-Dept  
Government of India  
Ministry of Fisheries Animal Husbandry & Dairying  
Department of Animal Husbandry & Dairying


Krishi Bhavan, New Delhi  
Dated: 08<sup>th</sup> July, 2022

**OFFICE MEMORANDUM**

**Sub: Minutes of the National Steering Committee meeting held on 29.06.2022**

Please find enclosed herewith the minutes of the National Steering Committee meeting held under the Chairmanship of Secretary, AHD on 29.06.2022 for information and necessary action.

Encl: As above.

  
(Dr. Bhushan Tyagi)  
Joint Commissioner (RGM)

Distribution:

1. Dr R.O Gupta, Sr General Manager, NDDB.
2. Dr M. S. Chauhan, Director NDRI, Karnal
3. Chief Executive Officer, Gujarat Livestock Development Board, Gandhinagar
4. Chief Executive officer, Uttar Pradesh Livestock Development Board
5. Dr A. Chinnusamy, Chief Executive officer, Tamil Nadu Livestock Development Agency
6. Dr Monideep Das, Manager, Assam Livestock Development Agency Animal Husbandry Department Assam
7. Chief Executive officer, Bihar Livestock Development Board
8. Chief Executive Officer, Kerala Livestock Development Board

Copy for kind information:

1. Sr PPS to Secretary (AHD)/Sr PPS to AS & FA /PPS to AS (C&DD)/ PS to AHC



## **MINUTES OF THE MEETING OF NATIONAL STEERING COMMITTEE UNDER RASHTRIYA GOKUL MISSION (RGM) HELD ON 29<sup>th</sup> JUNE 2022**

The 5th meeting of National Steering Committee of Rashtriya Gokul Mission (RGM) was held under the Chairmanship of the Secretary, AHD, Gol on 29<sup>th</sup> June 2022 at 1 PM. List of participants is at Annexure-I.

At the outset the Chairman welcomed all the participants and it was followed by agenda-wise presentation made by Cattle division on different project proposals received from States and ICAR.

### **Agenda No. 1**

#### **Strategies for Sustainable Implementation of Bovine IVF in India**

1.1 The detailed objectives of the proposal submitted by core committee were explained. Regarding provision of corpus fund it was decided that the corpus fund upto Rs.200.00 lakh should be made available only for IVF labs assisted under RGM and categorized as Phase II and Phase III. It was also decided that the eligible IVF labs will submit detailed action plan through the concerned State Government to DAHD on modalities for utilization of corpus fund and means to recoup the funds including income and expenditure profile of IVF labs. Further, these plans should be scrutinized by the Cattle Division and funds should be released as per approval of IFD.

1.2 For skill development of professionals working in the IVF labs assisted under RGM it was decided that the training may be conducted for OPU -IVF Technology, the approximate cost of Rs.1 lakh per trainee for OPU and Rs.1.80 lakh for laboratory training by experts as identified by Core Committee was approved in principle.

1.3 The overall proposal for Sustainable Implementation of Bovine IVF in India was approved in principle and is given at **Annexure II**.

### **Agenda No. 2**

#### **Proposal for establishment of AI network in Muzaffarnagar by NDRI under RGM**

2.1 ICAR-NDRI, Karnal has submitted a proposal for **establishment of AI network in Muzaffarnagar** with a financial requirement of Rs.1264.15 lakh. The funds are assessed and appraised as per approved guidelines of the scheme.

2.2 After the detailed discussions the project was approved with an allocation Rs. 859.10 lakh as per the details given at **Annexure III**.



### **Agenda No.3**

#### **Implementation of Nationwide Artificial Insemination Programme Phase-IV**

- 3.1 It was proposed to implement NAIP Phase-IV in 555 districts with less than 50% AI coverage with an aim of enhancing AI coverage in the country from level of 30% to 70% of the breedable bovine females during 2022-23. Project will cover 3 crore bovine females. To maintain uniformity of NER AI program with NAIP, proposal for including additional components was also submitted.
- 3.2 After detailed discussions, NSC approved (i) the implementation of NAIP Phase IV with an allocation of Rs. 1180.23 Crore including Rs 12.25 crores to NER States as per the standard guidelines from 1<sup>st</sup> August 2022 to 31<sup>st</sup> May 2023 as per the details at **Annexure IV** and (ii) Adjusting unspent balance available with the States under NAIP for implementation of NAIP IV.

### **Agenda no.4**

#### **4. Strengthening of Semen stations under Rashtriya Gokul Mission**

##### **4.1 Strengthening of semen Station located at Aduwal Solan (Himachal Pradesh)**

- 4.1.1 Himachal Pradesh submitted proposal for strengthening of semen station located at Aduwal Solan for production of frozen semen doses with a financial requirement of Rs 697.50 lakh. The funds are assessed and appraised as per approved guidelines of the scheme.
- 4.1.2 After detailed discussions, NSC approved implementation of the project with an allocation of Rs. 616.61 lakh as per the details at **Annexure-V**.

##### **4.2 Strengthening of ICAR- NDRI semen station located at Karnal (Haryana)**

- 4.2.1 ICAR- NDRI submitted proposal for strengthening of semen station located at Karnal (Haryana) with a total project cost of Rs 1079.30 lakh. The project was assessed as per the guidelines of the scheme.
- 4.2.2 After detailed discussions, the project was approved with an allocation of Rs. 1058.60 lakh as per the details at **Annexure-VI**.

##### **4.3 Strengthening of semen Station with Banaskantha District Cooperative Milk Producers Union Ltd (Banas Dairy) located at village Dama in Banas Kantha district.**

- 4.3.1 Banas Dairy (Gujarat) has submitted a proposal with the total cost of Rs 1319.52 lakh for strengthening of Semen station located with Banas Dairy. The proposal was appraised as per the guidelines of the scheme.

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4.3.2 After detailed discussions, the project was approved with an allocation of Rs. 1020.91 lakh as per the details at **Annexure-VII**.

#### **4.4 Strengthening of Central Frozen Semen Production & Training Institute (CFSP&TI) located at Hessarghatta, Bangalore**

4.4.1 During discussion it was mentioned that the semen station was established by Government of India in order to meet shortage of quality semen doses of all the States in the country. CFSP&TI has submitted a proposal as per guidelines of the scheme with the total cost of Rs 2654.74 lakh. The proposal was assessed as per the guidelines of the scheme.

4.4.2 After detailed discussions, the project was approved with an allocation of Rs. 2450.00 lakh as per the details at **Annexure-VIII**.

#### **4.5 Strengthening of semen Station with ICAR- CIRB located at Hisar.**

4.5.1 ICAR- Central Institute for Research on Buffaloes, Hisar has submitted a proposal with an outlay of Rs.1185.00 lakh for strengthening semen station located at Hisar. The proposal was assessed as per the guidelines of the scheme.

4.5.2 After detailed discussions, the project was approved with an allocation of Rs. 1055.16 lakh as per the details at **Annexure-IX**.

#### **5. Proposal submitted by State Government of for implementation of different Activities under RGM:**

5.1 The State Government of Kerala has submitted proposal with the total project cost of Rs 6503.80 lakh under various components of RGM. The funds are assessed and appraised as per approved guidelines of the scheme.

5.2 After detailed discussions, The NSC approved the project with an allocation of Rs. 547.60 lakh as per the details at **Annexure-X**.

Meeting ended with vote of thanks to Chair

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**LIST OF PARTICIPANTS OF PROJECT SANCTIONING COMMITTEE MEETING OF  
RASHTRIYA GOKUL MISSION HELD 29<sup>th</sup> JUNE 2022**

**DAHD**

1. Shri Atul Chaturvedi, Secretary (AHD), Govt. of India- Chairman
2. Shri. Sanjiv Kumar, AS&FA, DAHD
3. Smt Varsha Joshi, AS (C&DD), DAHD
4. Dr. Praveen Mallik, Animal Husbandry Commissioner
5. Dr Bhushan Tyagi, Joint Commissioner, DAHD
6. Dr Adhiraj Mishra, Assistant Commissioner, DAHD
7. Dr Chandra Bhadra, Assistant Commissioner, DAHD

**ICAR**

Dr M. S. Chauhan, Director NDRI, Karnal

**NDDB**

Dr R.O Gupta, Sr General Manager

**State**

1. Chief Executive Officer, Gujarat Livestock Development Board, Gandhinagar
2. Chief Executive officer, Uttar Pradesh Livestock Development Board
3. Dr A. Chinnusamy, Chief Executive officer, Tamil Nadu Livestock Development Agency
4. Dr Monideep Das, Manager, Assam Livestock Development Agency Animal Husbandry Department Assam
5. Chief Executive officer, Bihar Livestock Development Board
6. Chief Executive Officer, Kerala Livestock Development Board

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# **Strategies for Sustainable Implementation of Bovine IVF in India**

**Submitted to Secretary**

**Department of Animal Husbandry & Dairying  
Ministry of Fisheries, Animal Husbandry and Dairying,  
Government of India**

**Submitted by**

**Core Committee, IVF laboratories, DAHD, GoI  
June 23, 2022**



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## STRATEGIES FOR SUSTAINABLE IMPLEMENTATION BOVINE IVF IN INDIA

### 1. Background:

1.1 With the rising coverage of artificial insemination (AI) and thereby increasing demand for high genetic merit bulls (HGM) for semen production, the dairy industry is craving for multiplying elite germplasm faster to produce superior progenies. The situation is challenging particularly in case of indigenous cattle, where availability of elite animals of various breeds is very sparse. Over the years organised breeding programmes have been initiated in the country in the form of progeny testing and pedigree selection.

1.2 To aid these efforts, we require efficient use of different Assisted Reproductive Technologies (ART) for faster multiplication of the elite bovine population. IVF technology is a commonly used ART in developed dairy nation for production of elite bulls and multiplication of elite animals.

1.3 During last two decades, in vivo embryo production is carried out using multiple ovulation and embryo transfer (MOET) process in India. However, the technology requires costly hormones for super-ovulation and requires a significant resting period before using the same animal again.

1.4 During last couple of years, IVF technology has emerged as replacement to in vivo embryo production technique, because of its superior performance and lesser cost. It is envisaged that use of this technology to multiply the superior bovine germplasm can change the face of dairying in India, increasing the availability of HGM bulls and heifers rapidly.

1.5 In spite of being global leader in milk production India's average productivity is only 1924 kg per animal per year. This is indicative of poor yield among milch animals in the country. Availability of elite female animals is also limited in the country, therefore there is a urgent need to promote IVF technology in the country both for production of bulls and heifers

### 2. Objectives:

- (i) Multiplication and propagation of elite animals in an exponential manner.
- (ii) Enhanced availability of disease free high genetic merit bulls for use in artificial insemination programmes
- (iii) Increased availability of elite female animals of indigenous cattle and buffalo breeds.
- (iv) Enhancement of milk production and productivity by attaining higher genetic rate.

### 3. Technology:

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3.1 Embryo production, both in vivo and in vitro, is an ART deployed to produce more number of offspring from a female animal during its lifetime. The non-elite inferior animals are used as recipient (surrogate) for the embryos to produce better progenies.

3.2 In OPU oocytes are aspirated directly from the ovaries of elite donor animals using trans-vaginal probe guided by ultrasonography (USG).

3.3 In vitro embryo production (IVEP) includes in vitro maturation (IVM), in vitro fertilization (IVF) and in vitro culture (IVC). The whole procedure including OPU henceforth will be referred as IVF technology in this document.

3.4 The IVF technique is safer to the donor animal and tends to be more efficient than in vivo Embryo production. It allows repeatable embryo production without using exogenous hormones and without altering the reproductive cycle of donor. Since the technology is more efficient than in vivo embryo production, its use in bovine has gained momentum worldwide for commercial embryo production.

#### **4. The prominent benefits of this technology:**

4.1 It can increase the number of progenies from an elite female bovine animal during its lifetime. Normally, one can get one calf from an elite bovine female in a year. However, by applying IVF technology, one can get upto 18-24 calves from an elite bovine female in a year.

4.2 Genetic gain per year, apart from other factors, depends on intensity of selection. By using this technology we can produce more number of calves from selected elite animals, thereby increasing the selection intensity and speeding up the rate of genetic improvement. Several superior bulls can be used in the same cycle to produce calves from different sire dam combinations.

4.3 Pre-pubertal elite heifers selected through genomic selection can be used for production of calves which will reduce the generation interval and thereby increase genetic gain per year.

4.4 Exceptionally high producing female bovines with kink cervix and having other reproductive problems such as blocked fallopian tubes could also be used to produce embryos. Dams with non-functional udder and teats, which are normally culled, could also be used to produce embryos.

4.5 Use of sex sorted semen in IVF can further improve the genetic gain by producing offspring of desired sex in higher number using this technology. This technology offers the most efficient use of sexed semen and also of rare superior bull's semen because required number of spermatozoa is comparatively very less.

4.6 In future estimating genomic breeding value through embryo biopsy and detecting genetic diseases etc. in the embryos, even before transfer is also on the anvil.

#### **5. Selection of Donors:**

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5.1 IVF labs established under Rashtriya Gokul Mission are presently facing constraints in arranging elite donors for implementing bovine IVF technology in the country. In view of this the Core Committee suggest following strategy for arranging donors :

5.2 **Outright purchase of donors:** IVF labs may procure elite donors as per the provision available under RGM. Standards and specifications of all the donors procured by IVF labs shall be above Minimum Standard Protocol Prescribed by Government of India. Only those animals should be purchased as donors which have milk production records or on the basis of test day milk yield. IVF lab may also undertake genomic testing, animals with positive breeding values for milk yield should be selected and purchased.

5.3 **Hiring donors:** IVF labs may hire animals which have high genetic potential and are presently infertile to be used as donors and while returning the donor to the farmer, one/two female calves born out of the donor may be offered to the farmer. The donors which are elite and fertile can also be used in the same manner but needs to be returned by making animal pregnant along one/two female calves born out of donors. Genetic potential of the animals may be assessed by IVF labs using records available on INAPH portal or records available with farmers. IVF labs may also undertake genomic testing using genomic chip presently available with NDDB

5.4 **Elite donors available with the farmers:** may be utilized through embryo /calves sharing model. In case the farmer does not have any recipients, then the embryos may be made available on a cost basis or paying the farmer on per OPU basis.

5.5 **Disease testing:** All donors to be inducted at IVF lab and in breeding farm should be disease free as per the protocol prescribed in MSP for semen production.

5.6 **Meeting MSP standards:** Dams below MSP should never to be used as donor in IVF embryo production. All IVF production centres should also adhere to these standards and specifications.

## 6. Selection of Recipients:

6.1 Efforts should be made by all the IVF labs to transfer fresh embryos in order to attain higher conception rates. IVF labs should arrange recipients in advance for undertaking fresh embryo transfer. In view of this core committee suggest following strategy for arranging recipients

6.2 **Hiring the womb:** Suitable crossbred animals from local farmers could be used as recipients on a rental basis. After entering an agreement with the farmer, the selected animal could be used as an embryo recipient. The farmer would get an incentive in 2 installments (reasonable amount of incentive to be decided by the local authorities). The first installment to be given at 90 days confirmed pregnancy and second installment at the time of lifting a 4-day old IVF calf born out of his recipient. Such 4 days old genetically superior IVF calves of elite Indigenous cattle breeds to be raised up to age of 3-6 months

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and sold. The Core Committee recommend that sex sorted semen should be used for production of Embryos, so that 90 % calves born are female calves which have higher value in market. In case IVF lab is implementing bull production programme may use conventional (unsexed) semen for production of male and female calves in equal proportion.

6.3 **Recipient farms:** Cross-bred heifers (about 6-month-old) could be purchased and raised on a recipient farm. Once these heifers grow and start cycling, they could be used as embryo recipients. The recipients impregnated with IVF embryos of genetically superior indigenous animals/ crossbred animals (3 to 6 month pregnant) may be sold.

6.4 **Breed multiplication farms:** The animals from such farms may be used as recipients and impregnated with sexed IVF embryos (embryos produced using sex sorted semen) of high genetic merit. This will not only improve efficiency of breed multiplication farm but also increase availability of genetically superior heifers for sale.

6.5 **State/University breeding farms:** Low genetic merit animals from these farms could also be a source of recipients. This will improve genetic makeup of bull mothers available at these farms in single generation.

## 7. **Creation of Corpus fund:**

7.1 **Modalities of creation of corpus funds:** The Core committee suggests that corpus fund in the form of revolving fund may be created at each IVF lab supported under Rashtriya Gokul Mission. This will enable these labs to continue their activities in self sustainable manner and not dependent on State budgetary support for recurring expenditure. It is suggested that amount of Rs. 200.00 lakh may be allocated to individual IVF labs under RGM. Released amount may be maintained in a separate account and managed by IVF lab as revolving fund to meet important recurring expenditure.

7.2 **Activities covered:** Individual labs should use corpus towards any recurring expenses in implementation of IVF technology including consumables, manpower, donors, recipients, incentive to farmers, etc. as per their discretion. IVF labs may not be allowed to take up civil works and procure equipments from corpus funds. Corpus should be used as revolving fund so that same amount is available with IVF lab at the beginning of next financial year.

7.3 **Eligibility Criteria for Corpus funds:** Only the labs assisted under RGM may be eligible for corpus fund and categorized in category II and III. IVF labs will submit detailed action plan through the concerned State Government to DAHD on modalities for utilization of corpus fund and means to recoup the funds including income and expenditure profile of lab.

## 7.4 **Strategies for Utilization of Corpus Funds**

S. No.	Activity Component	Unit Cost (in Rs)	Amount (Rs in lakh)
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### Expenditure

1	Production of 1200 embryos/ year (consumables, media, hormones etc)	4500/	54.00
2	OPU on elite donors of farmer, 300 OPU/ year	5000/ OPU	15.00
3	Synchronization of 800 recipients/year,	2000/ recipient	16.00
4	Hiring of Manpower (Embryologist etc)	1 lakh/Month	10.00
5	Hiring of womb	10000/ recipient	20.00
6	Maintenance of Donors	LS	85.00
	Total		200.00

### Recovery of Cost of Goods & Services

1	Sale of embryos @ 600 embryos/ year	5000/ embryo	30.00
2	Sale of 6 month old calves--- (200 nos )	75000/ calf	150.00
3	Consultancy fees	LS	12.00
4	Augmenting resources from the animal husbandry related schemes implemented by other Departments	LS	8.00
	Total		200.00

Note: In case of deficit, budgetary support to be made available by State Government/ University. Interest accrued on corpus funds to be treated as income of concerned IVF lab. As this is developmental activity related to rural development and may be exempted from income tax as done in case of DRDAs.

## 8. Targets assigned to IVF labs operating in the country

8.1 Based on the stage of readiness, functioning ability and performance, the labs assisted under RGM has been divided into three categories detailed as under.

8.2 **IVF labs in category -I** : IVF labs assisted under RGM which are not yet ready and not yet started implementation of IVF technology are kept in this category. Details of these labs are as under:

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S. No.	Location of IVF lab sanctioned under RGM	Present status as on 31 <sup>st</sup> May 2022
1	Durg, Chattisgarh	IVF activity not started yet
2	Namakkal, Tamil Nadu	IVF activity not started yet
3	Patiala, Punjab	IVF activity not started yet
4	Patna Veterinary college, Bihar	IVF activity not started yet
5	Motihari, Central University Bihar	IVF activity not started yet
6	Hirangata, West Bengal	IVF activity not started yet
7	NKBC, Bhopal	7 IVF embryos produced
8	Palampur, Himachal Pradesh	IVF activity not started yet
9	Hosur, Tamil Nadu	IVF activity not started yet

Aforementioned labs to produce minimum 200 In-vivo derived embryos and 80 calves before shifting to IVF technology. After six months (effective from 1<sup>st</sup> January 2023), these labs may move to category II and start IVF work.

**8.3 IVF labs in category-II:** IVF labs assisted under RGM which are ready and have started the OPU-IVF work are categorised into this category. Details of these labs are as under:

S. No.	Location of IVF lab sanctioned under RGM	Present status as on 31 <sup>st</sup> May 2022
1	MPLPDC, Bhopal, Madhya Pradesh	Produced 22 IVF embryos and no calf
2	Korutla, Telangana	Produced 158 IVF embryos and no calf
3	Livestock Research Station, Lam farm, AP	Produced 287 IVF embryos and 14 IVF calves
4	LUVAS, Hisar, Haryana	Produced 288 IVF embryos and 5 IVF calves
5	MAFSU, Nagpur, Maharashtra	Produced 146 IVF embryos and 9 IVF calves
7	Barabanki, UP	Produced 70 IVF embryos and 4 IVF calves
8	APLDA, NKBC, Chintaldevi, AP	Produced 19 IVF embryos and no calf

Aforementioned labs to produce minimum 800 IVF embryos and 100 IVF calves for 1 year and 1200 IVF embryos and 200 calves from 2<sup>nd</sup> year onwards.

**8.4 IVF labs in Category III:** IVF labs assisted under RGM which are fully functional for OPU-IVF work regularly are categorized into this category. Details of these labs are as under:

S. No.	Location of IVF lab sanctioned under RGM	Present status as on 31 <sup>st</sup> May 2022
1	Kalsi, Uttarkhand, Livestock Development Board	Produced 690 IVF embryos and 132 IVF calves

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|----|---|---|
| 2  | Matupatti, Kerala, Kerala Livestock Development Board | Produced 340 IVF embryos and 3 IVF calves   |
| 3  | GADVASU, Ludhiana, Punjab                             | Produced 275 IVF embryos and 1 IVF calves   |
| 4  | SAG, Bidaj, Gujarat                                   | Produced 250 IVF embryos and 71 IVF calves  |
| 5. | BAIF Urulikanchan Pune                                | Produced 1925 IVF embryos and 15 IVF calves |

Aforementioned labs to produce minimum 1200 IVF embryos and 200 calves annually.

8.5 All the labs will submit the monthly progress report by 10<sup>th</sup> of each month for the previous month in the following format to DAHD. Minimum targets set under the programme for labs in different categories are also depicted in the following table. Core Committee will review the progress made by each lab in the review meetings to be organised in first week of April, July and Jan.

Parameter	Labs covered under category -1		Labs covered under category -2		Labs covered under category -2 and 3	
	Target	Ach	Target	Ach	Target	Ach
Period	Jan 2023 to Dec 2023 ( 12 months )		July 2022 to June 2023 ( 12 months)		Labs under category -3 (July 2022 to Dec 2023 (18 months) & Labs under category -2 ( July 2023 to Dec 2023—6 months )	
No. of OPUs	200		200		300 ( For 12 Months )	
Embryos production	800		800		1200 ( For 12 Months )	
Embryos frozen						
Embryos transferred (fresh)	300		300		600 ( For 12 Months )	
Embryos transferred (frozen)					-	
Pregnancies confirmed						
Pregnancies to be						

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confirmed						
Live calves born	100		100		200 ( For 12 Months )	

Note: (i) Target of calf birth will not be possible in same year ,but will be in following year.

(ii) The minimum targets of all the IVF labs from Jan 2024 to Dec 2024 will be to produce 1200 IVF embryos and 200 IVF calves .

## 9. Skill Development:

### 9.1 Training of Indian professionals in IVF by International experts in India:

9.1.1 **Description of Training:** Training to be conducted in India by the experts from Brazil/US in the field of Ovum Pickup and in vitro embryo production. Training is for the skill development of professionals working at IVF centres in India.

#### 9.1.2 OPU training:

9.1.2.1 **Location of training:** Training is proposed to be conducted at the IVF training Centre located at Kalsi Uttarakhand. Good facilities are available at this centre for training of professionals including latest equipments and residential facilities.

9.1.2.2 **Salient feature of Training:** Hands on training for 1.5 to 2 days will be sufficient for professionals presently working at IVF labs. Latest techniques for recovery of large number of oocytes will be demonstrated to professionals.

9.1.2.3 **Batch Size:** Training may be imparted to 24 professionals presently working at IVF labs in India at the rate 4 trainees per batch.

9.1.2.4 **Time Frame for Implementation:** to be decided by DAHD. It is proposed to organise one programme in August and another in December 2022. Details of the training programme will be prepared by CMU and submitted to DAHD in advance. Trainees will act as trainers in their State and train other professionals in their State for propagation of the technology among farmers.

9.1.2.5 **Cost of Training:** Entire cost of training may be met by DAHD including training fees charged by International Expert. CMU proposes that the training may be conducted by Dr Andre Dyan (USA)/ other experts identified by CMU. Approximate cost of training will be Rs 1 lakh per trainee and it is proposed that same amount may be released to the aforementioned training institute by DAHD.

### 9.2 Laboratory Training:

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**9.2.1 Location of training:** Training may be conducted at the IVF lab located at Lam farm Andhra Pradesh. Facilities are available at Lam farm to conduct proposed training programme.

**9.2.2 Salient feature of Training:** Conducted for lab technicians for Veterinarians and non-Veterinarians working at IVF labs in India.

**9.2.3 Batch Size:** Training may be imparted to 10 lab technicians presently working at IVF labs in India.

**9.2.4 Time Frame for Implementation for Implementation:** To be decided by DAHD One programme in July and another one in December 2022.

**9.2.5 Cost of Training:** CMU proposes that entire cost of training may be met by DAHD including training fees charged by International Expert. Approximate cost of the training will be Rs 1.8 lakh per trainee and same may be made available to Lam farm by DAHD

**9.2.6 Identification of expert by Core Committee:** International experts have been identified for laboratory training Dr. Yeda Watanabe from Brazil for laboratory training. Applications from candidates will be reviewed by the CMU and candidates will be chosen based on merit.

**9.2.7 Basic training by Indian experts:** This may also consist of the same two components of OPU training (for veterinarians) and Laboratory training for lab technicians (including non-veterinarians also). Following six institutes have been identified by core committee for imparting this training:

- (i) ABF, Kalsi, ULDB, Uttarakhand
- (ii) NDDB, Anand
- (iii) BAIF, Urulikanchan, Maharashtra
- (iv) Livestock Research Center, Lam farm, Guntur, AP
- (v) GADVASU, Ludhiana, Punjab
- (vi) KLDB, Mattupatty, Kerala

**9.2.8** Applications from candidates may be reviewed by the CMU and candidates may be chosen based on merit. Duration of training will be 10 days. Training fee for each candidate is assessed at Rs. 1 lakh inclusive of GST/ trainee including Boarding and lodging. Total of 72 technicians will be trained at aforementioned six training Institute in a year. Cost of training may be made available by DAHD to training institute (identified IVF labs for training). DAHD may direct State Governments not to transfer trained manpower for at least five years as this will lead to wastage of resources made available to the States under the scheme.

**9.2.9** The travelling expenses towards candidates selected for training by international experts or by National experts will be borne by the parent organization.



**10. Other Points:**

10.1 The core committee will have responsibility of advisory role for all the activities related to IVF -ET taken up by GOI including Accelerated Breed Improvement Programme implemented by NDDB.

10.2 The private service providers can utilize the facilities of RGM funded labs by entering in to an agreement with them

10.3 All the IVF labs funded under RGM or private labs will be graded and subsequently accredited by the core committee.

10.4 All IVF labs including private labs will follow the MSP and SOP set by core committee for production of quality IVF Embryos.

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**THE FOLLOWING ARE THE DETAIL CALCULATIONS FOR THE COST OF TRAINING**

**INTERNATIONAL TRAININGS**

**OPU-ET – by Dr Andre Dyan (USA)**

1. AIR FARE – USA TO INDIA (To and Fro) including local transport - Rs 2.5 lakh
2. Fees for 10 days @USD 1000 per day – US 10000 (In Rs 78.25 per dollar as on 23 rd June )—Rs 7,82,500 .00
3. 10 Days hotel stay and food of Trainer - Rs 0.50 lakh
4. Accommodation, food for 24 trainees - Rs 2.50 lakh
5. Amount allotted to training institute for other logistics such as transport etc. - RS 1.075 lakh
6. Amount allotted to Training institute for arranging training animals, consumables etc. --@ RS 40000 per trainee - total Rs 9.60 lakh

Grand total –Rs 24.00 lakh for 24 Trainees

Approx. --- Rs 1.00 lakh per Trainee

**LAB TRAINING - by Dr Yeda Watanabe (BRAZIL)**

1. AIR FARE – Brazil to India (To and Fro) including local transport - Rs 2.5 lakh
2. Fees for 10 days @USD 1000 per day –US 10000 (In Rs 78.25 per dollar )—Rs 7,82,500.00
3. 10 Days hotel stay and food - Rs 0.50 lakh
4. Accommodation, food for 10 trainees - Rs 2.50 lakh
5. Amount allotted to training institute for other logistics such as transport etc. - RS 0.675 lacs
6. Amount allotted to institute for arranging training animals, consumables etc. - -@ RS 40000 per trainee - total Rs 4.00 lakh

Grand total - Rs 18.00 lakh for 10 Trainees

Rs 1.8 lakh per trainee

**TRAININGS BY INDIAN EXPERTS**

1. Total Trainees –72
2. Training institutes – 6
3. Each institute to train 12 candidates in one year
4. To provide Rs 12.00 lakh to each institute (Rs 1.00 lakh per candidate)

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**Component wise project costs as approved by NSC for Establishment of AI network in Muzaffarnagar by NDRI under RGM**

S No	Item	Phy	Approved Unit cost	Funds approved
1.	New AI centre	35	50000/AIC	17.50
2.	Cost of semen and other consumables	3,00,000 AI	50/ AI	120.00
3.	Incentives and other cost	1,65,000	163.30/AI	269.45
4.	Salary to supervisors and veterinarian	4+2+2+1	-	113.80
5.	Training to AI tech	35	31000/ MAITRI	10.85
6.	Establishment reproductive disorder testing lab	1	As per estimates	148.00
7.	LN transport and distribution system	Cryo cans 95	LS	60.00
8.	Extension activities		6lakh/State & Rs 1000/ vill	7.00
9	Sex sorted semen	15000 preg	750/preg	112.50
	Total			859.10

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**Component wise project costs as approved by NSC for Implementation of Nationwide Artificial Insemination Programme Phase-IV**

S. No. A	Item	Total (Rs. in Cr)
1	Cost of Semen doses including consumables, transportation and storage @ Rs. 40/per dose per district	417.98
2	Incentive to private AI technicians @ Rs 50 per AI including data uploading on INAPH per district (Rs. 100 for Hilly States)	260.22
3	Incentives to all A.I technicians ( both Govt and private) @ Rs. 200/- for achieving conception at 1 <sup>st</sup> A.I and Rs. 100/- with 2 <sup>nd</sup> A.I .	302.88
4	Incentive to private AI technicians after birth of each calf @ Rs 100 per calf including data uploading on INAPH per district	151.29
5	Two data entry operator on consolidated salary of Rs. 10000/- month on short time basis for 10 months per district	9.20
6	Contingency grant @ Rs. 5.00 Lakh/ district for publicity at village and district level ( wall writing, Banners, leaflets, pamphlets etc), monitoring of progress , storage and transportation of semen doses & AI consumables	23.00
7	Parentage testing @ 10 calves born / district @ Rs.3400 per calf	1.56
8	Awareness programme at State level @ Rs. 5 lakh	1.00
9	<b>Total for 547 districts (A)</b>	<b>1167.15</b>
<b>B</b>	<b>NER A.I program</b>	<b>(Rs. in Cr)</b>
10	Incentives to all A.I technicians ( both Govt and private) @ Rs. 200/- for achieving conception at 1 <sup>st</sup> A.I and Rs. 100/- with 2 <sup>nd</sup> A.I .	4.87
11	Two data entry operators on consolidated salary of Rs.10000/- month on short time basis for 10 months per district	1.90
12	Contingency grant @ Rs. 5.00 Lakh/ district for publicity at village and district level ( wall writing, Banners, leaflets, pamphlets etc), monitoring of progress , storage and transportation of semen doses & AI consumables	4.75
13	Parentage testing @ 10 calves born / district @ Rs.3400 per calf	0.32
14	Awareness programme at State level @ Rs. 5 lakh	0.40
15	<b>Total NER States (B)</b>	<b>12.25</b>
16	<b>Total A + B</b>	<b>1179.40</b>
17	Awareness campaign @ 1% of total cost	11.79
18	Hiring of manpower 4 technical consultants on consolidated salary of @ Rs. 50,000/-per month ( 3 vets for monitoring of INAPH and 1 Management consultant for monitoring of project) on short term basis for one year.	0.24
19	Three DEO's on consolidated salary of Rs. 18000/-month on short time basis (one year )	0.06
20	Evaluation of NAIP I by an independent agency	0.40
	<b>Total Project cost</b>	<b>1180.23</b>

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## Annexure-V

**Component wise project costs as approved by NSC for Strengthening of semen station  
at Aduwal Solan**

S No	Item	Funds approved
1.1	Induction of HGM bulls	0.00
1.2	Civil Works	219.86
1.3	Lab Equipments	261.71
1.4	Farm machinery and Equipment	19.54
1.5	ICT for semen station	115.50
1.6	Training and Capacity Building	0.00
	<b>Total</b>	<b>616.61</b>

## Annexure-VI

**Component wise project costs as approved by NSC for Strengthening of Semen Station-  
ICAR-NDRI**

S No	Item	Funds approved
1.1	Induction of HGM bulls	0.00
1.2	Civil Works	640.00
1.3	Lab Equipment	402.70
1.4	Farm machinery and Equipment	15.00
1.5	ICT for semen station	1.60
1.6	Training and Capacity Building	0.00
	<b>Total</b>	<b>1058.60</b>

## Annexure-VII

**Component wise project costs as approved by NSC for strengthening of Semen  
Station- Dama, Banas Dairy**

S No	Item	Funds approved
1.1	Induction of HGM bulls	0.00
1.2	Civil Works	650.16
1.3	Lab Equipments	202.59
1.4	Farm machinery and Equipment	113.00
1.5	ICT for semen station	55.16
1.6	Training and Capacity Building	0.00
	<b>Total</b>	<b>1020.91</b>



## Annexure-VIII

**Component wise project costs as approved by NSC for strengthening of Semen Station- CFSP&TI, Hessarghatta**

S No	Item	Funds approved
1.1	Induction of HGM bulls	0.00
1.2	Civil Works	1800.00
1.3	Lab Equipments	400.00
1.4	Farm machinery and Equipment	150.00
1.5	ICT for semen station	100.00
1.6	Training and Capacity Building	0.00
	<b>Total</b>	<b>2450.00</b>

## Annexure-IX

**Component wise project costs as approved by NSC for strengthening of Semen Station- ICAR-CIRB, Hisar**

S No	Item	Funds approved
1.1	Induction of HGM bulls	0.00
1.2	Civil Works	600.00
1.3	Lab Equipments	300.00
1.4	Farm machinery and Equipment	100.00
1.5	ICT for semen station	55.16
1.6	Training and Capacity Building	0.00
	<b>Total</b>	<b>1055.16</b>

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**Component wise project costs as approved by NSC for various activities under Rashtriya Gokul Mission in Kerala**

S No	Item	Phy Targets	Unit cost	Funds approved
<b>(A)</b>	<b>EXTENSION OF AI COVERAGE</b>			
<b>(i)</b>	<b>Establishment of MAITRI's</b>			
	Training of Private AI worker	160	Rs.31,000	49.60
	Equipment	160	Rs.50,000	80.00
	Tapering grant	160	-	0.00
<b>(B)</b>	<b>SKILL DEVELOPMENT</b>			
<b>(i)</b>	<b>Refresher training of existing AI workers (Govt. Sector)</b>			
	Paraprofessionals	3000	Rs.3000/-	90.00
	Professionals	1400	Rs.25000/-	98.00
<b>(ii)</b>	<b>Strengthening of Training Center</b>			
	Strengthening of Training Centers as per CML's suggestions	2	Rs 50 lakh / AITI	100
<b>(C)</b>	<b>FARMERS AWARENESS PROGRAMMES</b>			
	Farmers' training programmes	70	-	105.00
	Organization of Fertility Camps	250	10000 per camp	25.00
	<b>TOTAL</b>			<b>547.60</b>

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